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Spain's Bioethanol Standing Report

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Report Highlights:

This report provides an overview of Spain's bioethanol sector including Member State specific policy, production supply and demand data. Spain is among the four top EU-27 Member States in terms of bioethanol production capacity and consumption. While self-sufficient in bioethanol, Spain has to import annually between 9 and 13 million MT of grains to meet robust the livestock sector and bioethanol industry needs, which accounts for over one million MT of grains use. In 2013 the bioethanol sector will face new challenges such as the end of the hydrocarbon tax exemption for biofuel and sustainability requirement for the bioethanol to be eligible to meet national targets.

General Information:

Disclaimer: This report provides an overview of Spain's biofuel sector including MS specific policy, production supply and demand data. Spain, as a member of the European Union (EU), conforms to EU directives and regulations on biofuels. It is therefore recommended that this report is read in conjunction with the EU-27 Consolidated Biofuels Report.

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I. Executive Summary:

Spain is amongst the four top EU-27 MS in terms of bioethanol production capacity and consumption. Spain's bioethanol production industry is comprised by four plants, three out of which use grains as a feedstock and a plant that processes raw alcohol into bioethanol. Spain is self-sufficient in terms of bioethanol production and even able to export part of the domestic bioethanol production to other countries, mainly within the EU.

Spain's regulatory framework for biofuels is based in two measures that include the hydrocarbons tax set at zero for biofuels, which has not been extended to 2013, and an energy-based consumption mandate. The sustainability criteria provisions within the Renewable Energy Directive (RED) were transposed to national regulation by Royal Decree 1597/2011. Starting in January 2013, biofuel marketed to meet national targets has to be certificated sustainable. The Spanish bioethanol industry has opted for private certification schemes.

Abengoa Bioenergy, Spain-based largest bioethanol producer, choose to create and implement a private scheme, known as RBSA (RED Bioenergy Sustainability Assurance) which was approved by the Commission in July, 2011 along with the first batch of private schemes approved. Abengoa is also able to buy certified feedstuffs under their own scheme as well as under other EC approved private schemes on request. Acciona, the other main player in the Spanish bioethanol arena, will opt for one of the EC approved private schemes to certify its bioethanol production.

II. Abbreviations and definitions used in this report

Bioethanol: Ethanol produced from agricultural feedstock used as transport fuel

DDG : Distillers Dried Grains

EXX: Blend of mineral gasoline and bioethanol with the number indicating the percentage of bioethanol in the blend, e.g. E10 equals 10% bioethanol and 90% conventional gasoline.

ePURE: European Renewable Ethanol Association
APPA: Spain's Renewable Energies Association
CNE: Spanish National Energy Commission
CORES: Spanish Corporation of Strategic Reserves of Oil-based Products
IDAE: Spanish Institute for Energy Diversification and Saving
MINETUR: Ministry of Industry, Energy and Tourism
MAGRAMA: Ministry of Agriculture, Food and Environment
GOS: Government of Spain
EC: European Commission
EU: European Union
MS: Member State

HS: Harmonized System of tariff codes
MY: Marketing Year
CY: Marketing Year
MT: Metric tones
VAT: Value Added Tax
Q: Quarter of the year (Q1, Q2, Q3, Q4)
N/A: Not available

Energy content and Conversion rates:

Gasoline = 43.10 MJ/kg = 43.1 GJ/MT
Ethanol = 26.90 MJ/kg
1 Toe = 41.87 GJ
1 MT Gasoline = 1,342 Liters = 1.03 Toe
1 MT Ethanol = 1,267 Liters = 0.64 Toe
Bioethanol density = 0.789 MT/m^3

Trade figures for ETBE are based on Global Trade Atlas (GTA) data HS 29091910 code.

III. Production Capacity

The Spain's bioethanol producing sector is rather small when compared to the biodiesel sector in terms of number of plants and installed production capacity. Currently, there are four bioethanol plants operating in Spain, and a second generation pilot unit. All of them, with the exception of the second generation pilot unit, where built prior to 2008.

Total production capacity installed remains unchanged since 2009. No further production capacity increases are anticipated in the near future (**Table 1**). Differently from the biodiesel sector, bioethanol industry sources report an average high use (about 80 percent) of installed production capacity.

The three Abengoa owned plants produce bioethanol out of grains. Two of the plants are located near ports (Cartagena and La Coruña), which enhances the possibility to change feedstock depending on market conditions. The third and largest grain-based bioethanol plant is located inland and can also adapt to use different feedstock. This facility shares common services and process chain with a second generation straw-based pilot unit.

The Acciona's and Uriel investments bioethanol plant, located in Castile-La Mancha, the largest wine producing region in Spain, produces bioethanol from raw wine alcohol produced in domestic alcohol distilleries.

Table 1. Spain's Bioethanol Plants

Plant	Location	Company	Bioethanol Prod. Capacity		DDG (MT)	Grain consumption (MT)	Start of Operation
			(MT)	(Million liters)			
Ecocarburantes Españoles	Cartagena (Murcia)	Abengoa 95% IDAE 5%	118,000	150	110,000	300,000	2000
Bioetanol Galicia	Texeiro (La Coruña)	Abengoa 90% XES Galicia 10%	154,000	195	130,000	340,000	2002
Biocarburantes Castilla y León	Babilafuente (Salamanca)	Abengoa	158,000	200	120,000	585,000	2006
			Pilot project 4,000	5	-	Straw. Enzimatic hydrolisis of glucose.	2009
Bioetanol de la Mancha	Alcazar de San Juan (Ciudad Real)	Acciona - Uriel investments	34,000	33	-	None. Operates on wine alcohol	2006
Total			**464,000**	**583**	**360,000**	**1,225,000**	**-**

Source: FAS Madrid and Industry Sources

IV. Feedstock

On average, about 95 percent of bioethanol in Spain is produced out of grains and the remaining 5 percent is produced out of wine alcohol.

Spain grain production ranges between 18 million MT and 24 million MT, however, inconsistent yields and a strong demand result in a structural deficit that ranges from 9 to 12 million MT of grains that need to be imported in a yearly basis. Due to the reduced domestic crop, this amount could be closer to the highest value in the range in MY2012/13. (See GAIN reports SP1204, SP1214 and SP1224)

The bioethanol industry consumes over one million metric tons of grains per year and the type of grain used can vary as the three plants that produce bioethanol out of grains can easily adapt to different feedstocks.

Historically, grains used in bioethanol production in Spain consisted in corn, wheat, barley and sorghum. Criteria taken into consideration when choosing feedstock do not only include price of grains but also other costs as logistics, and the value of the by-product obtained in the distillation process, the Distilled Dried Grains (DDG). High bioethanol and bioethanol by-product's price, driven up by the general feed grain prices hike in 2012, is helping to improve bioethanol production margins.

While corn, wheat and barley are the preferred grains for bioethanol production and their shares vary every year depending on price relations, grain sorghum was only used as a feedstock by the Spain based bioethanol industry in MY 2007/08, when world grain prices soared.

Beginning in January 2013, the bioethanol marketed to meet national targets on blending will have to be sustainable. On top of the grain prices surge, bioethanol producers will be facing the new challenge of purchasing sustainable raw materials.

The Acciona's plant, located in Spain's largest wine producing region, produces bioethanol out of raw alcohol from produced by domestic distilleries out of residues from winemaking (wine pomace and lees). Starting next Fall, in order to expand its possible suppliers, Acciona could start buying raw alcohol produced out of municipal waste and citrus industry residues.

The distillation of by-products of winemaking is granted with a national support program by which a fixed aid is received per alcoholic content and volume produced (1.1 Euros/Hectoliter and alcoholic

content when produced from wine pomace, and 0.5 Euros/Hectoliter and alcoholic content when produced from lees) (See GAIN Report SP1208).

The product obtained in this supported distillation, with an alcohol content of 92 percent, can only be used for industrial or energy purposes to avoid distortion of competition.

The bioethanol produced out of residue status for winemaking by-products as it pertains to double counting has not been specified yet

At the moment, there are not any plants producing bioethanol out of sugar beet or sugar cane in Spain. However, when it comes to advanced biofuels, there is an experimental barley and wheat straw based plant in Babilafuente (Salamanca), property of Abengoa Bioenergy.

According to the CNE's annual report (**Table 2**), in 2009 about 8 percent of the bioethanol was produced out of raw alcohol, 14 percent out of barley, 51 percent out of corn and 27 percent out of wheat. The 2010 CNE's annual report shows how the use of wheat increased to 36 percent at the expenses of corn and raw alcohol that went down to 44 and 5 percent respectively. While official data for 2011 are yet to be released, a higher use of corn at the expense of wheat and barley is anticipated. Also in the first semester of 2012, corn has been the main feedstock used in the bioethanol grain plants and it is anticipated to remain the main feedstock through the year.

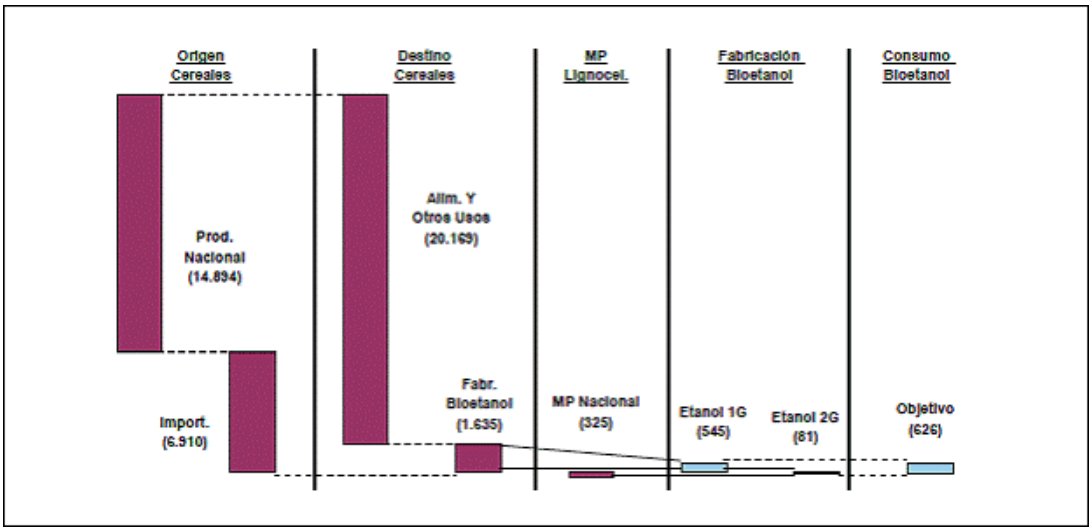
Table 2. Raw material used in Bioethanol produced in Spain*

Year	2009	2010	2011e
Corn* (%)	51	44	65
Wheat* (%)	27	36	25
Barley* (%)	14	15	5
Wine Alcohol (%)	8	5	5

Source: CNE and FAS estimates

*Percentage of the bioethanol produced in Spain.

Graph 1. Feedstock balance forecast for 2020



Source: Renewable Energy Plan (REP). IDAE.

According to **Graph 1**, elaborated by the IDAE and presented in the Renewable Energy Plan, in 2020 the bioethanol consumption target is 626 thousand metric tons. Installed capacity is expected to amount to the same quantity, 81 thousand MT out of which would correspond to second generation bioethanol production capacity. While based on IDAE's projections, while in 2020 Spain would be self-sufficient in terms of bioethanol production, it still will short fall of its grain import needs.

Forecasted in-country production of grains in 2020 according to IDAE would total nearly 15 million MT. Forecasted food requirements along with biofuels industry demand for 2020 (nearly 22 million MT) would result in nearly 7 million MT of grain imports. According to IDAE's forecasts, raw materials for second generation bioethanol will be originated in domestically.

V. Production

Since 2006 Spain's bioethanol production has followed an upward trend with the exception of years 2007 and 2008, when high grain prices prevented the bioethanol refineries from a production increase. The reduction of feedstock prices in the second half of 2008 and throughout 2009 boosted bioethanol production that has grown steadily up to present (**Table 3**). Overall domestic bioethanol production in 2012 is expected to decline due to competition for feed stocks.

Table 3. Spain's Bioethanol Production

Year	2006	2007	2008	2009	2010	2011	2012e
Production (1,000 MT)	317	275	250	367	372	365	340

Source: ePURE, Industry sources and FAS estimates.

Advanced Biofuels - Bioethanol produced out of lingo-cellulosic feedstocks

There is an experimental barley and wheat straw based plant in Babilafuente (Salamanca), property of Abengoa Bioenergy. This facility, which produces bioethanol by a hydrolysis process, has a production capacity of 5 million liter/year. Abengoa's second generation plant is located inside the grain facility Biocarburantes de Castilla y León in Babilafuente, so both facilities share services and process chains.

In the Renewable Energy Directive 2009/28/EC, second generation biofuels will get double credit. This means that biofuels made out of ligno-cellulosic, non-food cellulosic, waste and residue materials will count double towards the 10 percent target for renewable energy in transport in 2020. While the RED has been transposed to National Regulation, no provision on double counting has been specified yet. This will likely be clarified in 2013 by Resolution by the Undersecretary for Energy within the Ministry of Industry, Energy and Tourism.

VI. Consumption and Marketing

The bioethanol potential market is small compared to the biodiesel potential market in Spain since the large majority of the transport fuel is diesel. Total conventional fuel consumption peaked in 2007 and followed a downward trend that continues today. Also, consumption of conventional diesel has increased over the years at the expense of gasoline consumption (**Table 4**): Gasoline consumption represents less than 20 percent of the fuel for road transport consumption.

Practically all bioethanol marketed in Spain is ETBE and used as an additive into gasoline. Technical characteristics of ETBE are fairly similar to gasoline, which allows blending in refineries and later distribution by pipeline.

Table 4. Spain's Conventional Fuel Consumption for Road Transport

Year	2006	2007	2008	2009	2010	2011	2012e
Gasoline (1,000 MT)	6,931	6,688	6,288	6,005	5,670	5,293	5,255

Source: CORES and FAS Madrid estimates.

Bioethanol consumption follows an upward trend mainly driven by the mandates imposed since 2009. Bioethanol mandates are currently set at 4.1 for 2012 and 2013.

Table 5. Spain's Bioethanol specific mandate (percentage in terms of energy)

Year	2008	2009	2010	2011	2012	2013
Bioethanol specific mandate (%)	1.9	2.5	3.9	3.9	4.1	4.1
Overall mandate (%)	1.9	3.4	5.83	6.2	6.5	6.5

Source: Orden ICT/2877/2008. Ministry of Industry, Tourism and Trade and Royal Decrees 1738/2010 and 459/2011.

Table 6. Spain's Bioethanol Consumption for Road Transport

Year	2008	2009	2010	2011	2012e
Bioethanol (1,000 MT)	144	236	354	356	358

Source: CORES and FAS Madrid Estimates.

The reduction in the conventional fuel consumption, which has been declining since 2007, contributed to meet the energy based consumption mandates. As a result, while consumption mandates are met, targets can be achieved with lower bioethanol use levels. In addition to the economic recession-driven decline in consumption of gasoline, there are a number of factors limiting a broader use of bioethanol in gasoline:

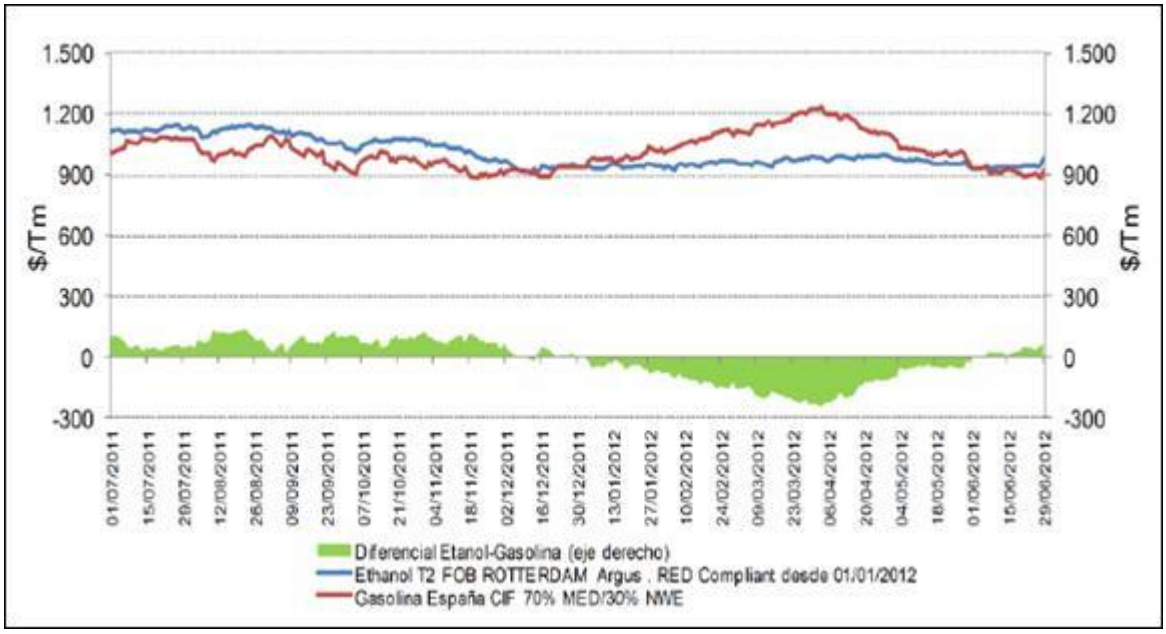
First of all, the pace of increase is anticipated to be slower until 2013 and then grow steadily driven by the disappearance of the so-called "protective petrol" and of labeled blends and the extension of E10 use. The use of higher content biofuel blends would allow companies to sell bioethanol for direct blending in the domestic market, however, industry sources agree on the fact that this will only take off once the obligation to market "protective petrol" in gas stations expires in 2013.

The presence of labeled blends in petrol stations is rather limited and the national production of bioethanol for direct blending is exported for the most part. Direct blending is also limited during summer (from May to September) due to the temperatures affecting negatively to the gasoline volatility (vapor pressure). According to CNE March 2012 monthly report, pure bioethanol sales and labeled blends represented in Q1 2012 only 0.19 percent of total sales in terms of volume.

Bioethanol consumption remained fairly stable throughout 2011 compared to 2010 since the mandate remained stable. For 2012, a further consumption increase is foreseen driven by the higher bioethanol-specific mandate enforced. However, this upward trend is anticipated to be offset by an overall decline of transport fuels consumption. As per 2013, bioethanol consumption is projected to remain stagnant as mandates are kept stable.

According to CNE's March 2012 monthly report (**Graph 2**), average international prices for the period July 2011 – June 2012 were $1,008.39 per MT for bioethanol and $1,017.58 per MT of gasoline, so the average price spread in the referred period amounted to -9.19 $/MT. The price differential has been reversed in June 2012. As a consequence of the grain prices, gasoline was traded at a discount to bioethanol, which reduces the incentive blenders have to mix higher of the bioethanol. Nevertheless, surging international prices for gasoline since July might have negated this tendency.

Graph 2. International Gasoline and Bioethanol Prices ($/MT)



Source: CNE.

VII. Trade

As the EU has no Harmonized System (HS) code for bioethanol, trade numbers are difficult to assess. Spain is for the most part self sufficient in bioethanol. Spain's bioethanol trade mainly takes place at the EU level, being Spain a net exporter of bioethanol to other MS. Spain's imports mainly consist on ETBE from Brazil or the United States.

Table 7. Trade balance (1,000 MT)

Year	2008	2009	2010	2011	2012e

Production (1,000 MT)	250	367	372	365	340
Consumption (1,000 MT)	144	236	354	356	358
Net Trade (1,000 MT)	106	131	18	9	18

Source: FAS Madrid calculations based on production and consumption data

Since, no further increases in capacity are foreseen; increases in consumption set by mandates would likely be covered by lower exports of bioethanol to other EU countries and increased ETBE imports.

In 2010 and 2011, the United States was the largest supplier of ETBE to Spain. Total ETBE imports have declined throughout 2011, with the US and Brazil gaining market share at the expense of declining imports from other EU MS.

Table 8. Spain's main ETBE suppliers (1,000 MT)

Year	2008	2009	2010	2011	Jan – May 2012
EU-27	16	54	196	106	69
United States	0	0	142	115	2
Brazil	0	22	59	71	26
Others	0	6	0	5	4
Total	**16**	**82**	**397**	**298**	**102**

Source: GTA

VIII. MS Specific Policy

The legal framework for biofuels promotion in Spain is based in two measures that include the hydrocarbons tax set at zero for biofuels and the consumption mandate.

The hydrocarbon tax reduction represents a higher incentive for blending since it amounts to 0.401 Euros/liter –applicable to the share of bioethanol contained in the blend - and the cost mandate breach adds up to 0.177 Euros/liter in the case of bioethanol.

No further increase in mandates anticipated for 2013 and the hydrocarbon tax exemption for biofuels will expire in 2013.

In addition to this, there is a national regulation on Fuels Technical Specifications that establishes the technical conditions to place biofuels blends in the Spanish market.

- **Biofuel use targets**

The EU Directive 2003/30/EC on promotion of the use of biofuels or other renewable fuels for transport, currently replaced by Directive 2009/28/EC, had as its main goals to contribute to meet climate change commitments and to provide an environmentally friendly security of supply and promoting renewable energy sources.

Directive 2003/30/EC set out indicative biofuels use targets for EU Member States at two percent by the end of 2005 and 5.75 percent by the end of 2010. Directive 2009/28/EC established a mandatory 10 percent goal of renewable energy in transport by 2020.

In Spain, Royal Decree 12/2007, published in July 2007 amending Law 34/1998, imposed mandatory biofuels blending beginning calendar year 2009. The Government of Spain (GOS) established a voluntary 1.9 percent blending of biofuels during 2008; a mandatory 3.4 percent blending during 2009 and a mandatory 5.83 percent blending during 2010.
To achieve the goals established in Royal Decree 12/2007, a Ministerial Order (Orden ICT/2877/2008) was issued in October 2008. The Order established specific minimum requirements for biodiesel and bioethanol for 2009 and 2010, maintaining the obligation to meet the overall mandate.

The targets for years 2011, 2012 and 2013 were established by Royal Decree 1738/2010 in accordance to the reference targets in the Spanish National Renewable Energy Action Plan (NREAP) and considering the CNE's related report. The mandates were later revised upwards by Royal Decree 459/2011.

The amounts of transport biofuels that must be place in the market by fuel sector operators are as shown in **Table 9**. The mandates are based in energy content, not volume. The gap between the specific and the overall mandates can be fulfilled by either biofuel.

Table 9. Spain's biofuel targets (percent in terms of energy)

Year	Type of mandate	Overall mandate	Biodiesel specific	Bioethanol specific
2008	Voluntary	1.9	1.9	1.9
2009	Mandatory	3.4	2.5	2.5
2010	Mandatory	5.83 / 4.78*	3.9	3.9
2011	Mandatory	6.2	6	3.9
2012	Mandatory	6.5	7	4.1
2013	Mandatory	6.5	7	4.1

Source: Orden ICT/2877/2008. Ministry of Industry, Energy and Tourism and Royal Decrees 1738/2010 and 459/2011
* According to MINETUR Resolution dated January 7th, 2011

The Ministerial Order ICT/2877/2008 appointed the CNE, Spain's independent regulator of the energy markets, as the authority responsible to monitor and control the amount of biofuels marketed or consumed through a certificate system.

The CNE implemented a Certification System (SICBIOS), through which parties obliged to supply biofuels must send their requests for certificates. Other agents, such as storage facilities owners and biofuels producers must provide information verifying the data reported by the obliged parties.

Based on all of this information, the CNE issues certificates in favor of each party obliged. One certificate equals one metric ton of oil equivalent biofuel marketed. There are biodiesel specific certificates and specific bioethanol certificates that count against each mandate. Certificates can be transferred between obligated parties and since 2010, certificates can also be transferred to the following year up to a maximum of 30 percent of the mandate of the party obliged.

At the end of each year, the CNE calculates whether the obliged parties met the mandates. Fines of 350 Euros are imposed per certificate/metric ton of oil equivalent that the obliged party failed to market. This equals to 0.177 Euros/liter in the case of bioethanol and 0.276 Euros/liter for biodiesel.

In 2008, (**Table 10**) bioethanol consumption in Spain totaled 1.4 percent, while biodiesel consumption amounted to 2.07 percent, resulting in overall biofuels consumption in transport of 1.94 percent. According to the CNE annual report, while in 2009 overall biofuels consumption added up to 3.43 percent and biodiesel consumption amounted to 3.67 percent, surpassing in both cases the established mandate, bioethanol consumption fall short to meet its specific mandate reaching only a 2.49 percent versus the 2.5 required.

In 2010, overall biofuel use (4.87 percent) fell short to meet the established mandate (5.83 percent). In January 2011 (MINETUR Resolution dated January 7th, 2011) a zero value to the penalty for breaching the biofuel target provided that a 4.78 percent in terms of energy is reached. This reduction was justified by the delay in transposing the fuel technical specifications into the national regulation, which prevented blenders from marketing higher content blends earlier in the year. As a consequence no fine was imposed. Considering the specific mandates, while biodiesel use (5 percent) exceeded the biodiesel specific mandate (3.9 percent), the bioethanol specific mandate was not met (3.88 percent versus 3.9 percent).

There is not yet any official number for 2011 biofuel use. However, provisional data released by CNE indicate that the bioethanol content would add up to 4.3 percent, while the overall use of biofuels would represent 6.2 percent.

Table 10. Mandate Compliance (percent in terms of energy)

Year	Overall		Bioethanol specific		Biodiesel specific	
	Mandate	Consumption	Mandate	Consumption	Mandate	Consumption
2008	1.9	1.94	-	1.4	-	2.07
2009	3.4	3.43	2.5	2.49	2.5	3.67
2010	5.83	4.87	3.9	3.88	3.9	5
2011	6.2	6.2	3.9	4.3	6	6.6

2012*	6.5	6.8	3.6	3.5	7	7.5

Source: CNE

*Based on provisional data up to March 2012

On March 2012, the Ministerial Order IET/631/2012 introduced a so-called "territorial exemption" on bioethanol consumption, which allows the obligated parties to market biofuels in certain territories (Canary Islands, Ceuta and Melilla) below the national level established mandates (**Table 11**).

Table 11. Territorial Exemption on Biofuel Consumption (percent in terms of energy)

Year	Overall mandate	Bioethanol specific mandate
2011	4.7	3
2012	5.5	3.4
2013	5.7	3.8

Source: Order IET/631/2012. Ministry of Industry, Energy and Tourism

- **Hidrocarbons tax reduction for biofuels**

Article 50-bis from Law 53/2002 of 30 December reformed the Special Duties Law 38/1992 and enabled biofuels to benefit from an exemption from the Special Hydrocarbons Tax. According to the modification introduced by Article 2 paragraph, from law 22/2005, biofuels will be exempted from the hydrocarbons tax until 31 December 2012. The hydrocarbon tax exemption for biofuels has not been extended to 2013.

This special rate only applies to the volume of actual biofuel, even when it is mixed with other products. Nevertheless, biofuels are subject of the special hydrocarbons tax, the tax on the retail sales of hydrocarbons (to be merged with the special hydrocarbons tax in 2013) whose total amount varies depending on the Autonomous Region, and a VAT of 21 percent, as of September 1, 2012. Prior to that, the general VAT applied to hydrocarbons was set at 18 percent. According to sources, this recent VAT increase would result in a gasoline retail price increase of nearly 4 Euro cents per liter. For gasoline, the hydrocarbon tax adds up to 0.401 Euros/l and for diesel is 0.307 Euros/l respectively.

Article 51.3 from Law 53/2002 of 30 December introduced an exemption to the tax imposed to the manufacture or import of biofuel from pilot projects intended as automobile fuel. This exemption is granted provided that the experimental nature of a project is accredited and the maximal annual production is below 5,000 liters of biofuel. The period of exemption may not exceed five years.

While biofuel produced in pilot projects is exempted of the hydrocarbon tax, the tax is just set at zero for biofuel produced in commercial plants. As a consequence, the tax for commercial plants biofuel can be increased if deemed appropriate, while the tax imposed to pilot plants cannot be altered.

- **Fuels technical specifications**

The EU adopted Directive 2009/30 in April 2009 enabled fuel operators to market B7 and E10. Royal Decree 1088/2010 released in September 2010, transposed the mentioned Directive into national regulation and increased accordingly the biodiesel content allowed from 5% to 7% and the bioethanol content permitted from 5% to 10%.

The national regulation requires that blends with volumetric biodiesel content over 7 percent, or volumetric bioethanol content over 10 percent, or volumetric bioethanol content over 5 percent and over 2.7 of oxygen content in terms of mass, should be labeled indicating the biofuel content. In addition, the following disclaimer should be present: “Before using this product, please make sure it is suitable for your engine”.

In the case of gasoline blends, concerns about the ability of older vehicles to use higher biofuel blends has been taken into account. Spain will ensure until December 31, 2013, supply of at least the lowest octane index gasoline with less than 5 percent bioethanol in terms of volume, and less than 2.7 percent of oxygen in terms of mass in all petrol stations. This type of gasoline is known as so-called "protective petrol". Same octane index gasoline can be also available with higher oxygen or bioethanol contents. This regulation limits the quantities of bioethanol that can be marketed until 2013 in order to protect the oldest vehicles that are not prepared to operate on higher bioethanol contents.

- **Transposition of the RED into national regulation**

The Renewable Energy Directive 2009/28/EC (RED) on the promotion of the use of energy from renewable sources and amending, and subsequently repealing, Directives 2001/77/EC and 2003/30/EC aims achieving 20 percent share of energy from renewable sources in the EU's final consumption of energy and a 10 percent share of energy from renewable sources in each Member State's transport energy consumption by 2020.

The RED sets different targets for different Member States within the overall target; for Spain the target is 20 percent. The 10 percent target for renewable energy in transport is mandatory for all Member States.

Directive 2009/28/EC, laid down sustainability requirements for biofuels, establishes restrictions on the Greenhouse Gas savings - at least 35 percent - and restrictions on land use. The reduction of emissions should add up to 50 percent from 2017, and at least 60 percent in new facilities after 2018.

Royal Decree 1597/2011, which was prepared by the former Ministry of Industry, Tourism and Trade (current Ministry of Industry, Energy and Trade) and assessed by the CNE (Spanish National Energy Commission), transposed sustainability criteria to national regulation, defined Spain's National Scheme for verification of compliance and transposed those provisions in the Directive related to double credit for certain biofuels. More information on the Spain's National Sustainability Scheme can be found in the GAIN Report SP1229.

The Royal Decree 1597/2011 is based on the EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources and the sustainability criteria are identical to those in Article 17 of the RED.

Starting on January 1st, 2013 sustainability will be required for all biofuels marketed, however a transitory period be observed until de verification system is fully in place. During the transitory period, the actors in the supply chain can comply with sustainability by just presenting a Responsible Declaration. Once the transitory period is over and the sustainability verification system is fully implemented a sustainability verification report prepared by a sustainability certification entities will be required.

Abengoa Bioenergy, Spain's largest bioethanol producer and one of the country's largest biofuels producers, chose to implement a Voluntary Scheme, known as RBSA (RED Bioenergy Sustainability Assurance) which was presented to the Commission on October, 2010 and approved in July, 2011. The scheme that intends to demonstrate the fulfillment of the RED sustainability requirements in their biofuel production and distribution operations across the EU-27 establishes requirements from agricultural production stage to the distribution stage. The RBSA Scheme is based on the principles of modularity, prior validation, flexibility and simplicity.

Acciona, the other main player in the Spanish bioethanol arena, will opt for one of the EC approved private schemes to certify its bioethanol production.

IX. Related Reports

Report Title	Date Released
Spain's National Sustainability Scheme	9/3/2012
EU-27 Biofuels Annual Report	7/10/2012
Grain in Spain – The Final Stretch	6/26/2012
Rain in Spain - Enough Already?	5/3/2012
Spain Enacts Biodiesel Production Quota System	4/30/2012
No Rain in Spain Falling on the Plain	2/2/2012
Spain Wine Standing Report	3/7/2012

Spain’s Biodiesel Standing Report	11/22/2011